

## CLAIMS

What is claimed is:

1 1) A slider being fixated on a slider arm of a hard disk  
2 drive and having a burnished surface in a  
3 substantially parallel orientation to an opposing hard  
4 disk surface, wherein said parallel orientation is  
5 defined by burnishing said slider on said opposing  
6 hard disk surface.

1 2) The slider of claim 1, wherein said burnished  
2 surface is placed on an air bearing surface  
3 adjacent to a contacting sensor.

1 3) The slider of claim 2, wherein said contacting  
2 sensor is a magnetic read head.

1 4) The slider of claim 2, wherein said burnished  
2 surface is placed on a slider having a crown.

1 5) The slider of claim 2, wherein said burnished  
2 surface is placed on said slider having a  
3 camber.

1 6) The slider of claim 1, wherein said burnished  
2 surface is placed on an air bearing surface  
3 overlapping with a contacting sensor.

1 7) The slider of claim 6, wherein said contacting  
2 sensor is a magnetic read head.

1 8) The slider of claim 6, wherein said burnished  
2 surface is placed on said slider having a crown.

3  
1 9) The slider of claim 6, wherein said burnished  
2 surface is placed on said slider having a  
3 camber.

4  
1 10) The slider of claim 1, wherein said burnished  
2 surface has an area extension corresponding to a  
3 predetermined fly characteristic of said slider.

4  
3 11) The slider of claim 1, wherein said burnished  
2 surface has an area extension corresponding to a  
3 predetermined friction characteristic of a  
4 contacting interface between said slider and said  
5 opposing hard disk surface.

6  
1 12) The slider of claim 1, wherein said burnished  
2 surface is provided by applying a burnishing  
3 method.

4  
1 13) A burnishing method for burnishing a slider on a hard  
2 disk surface, said slider being mounted on a slider  
3 arm of a hard disk drive, said burnishing method  
4 comprising the steps of:

- 5 A) preparing a hard disk surface by removing  
6 eventual topographic inconsistencies;  
7 B) burnishing said slider; and  
8 C) checking a burnishing result.

9  
1 14) The burnishing method of claim 13, said burnishing  
2 method further comprising the step of recognizing

3 eventual topographic inconsistencies being  
4 performed prior to said step A) of claim 13.

5

1 15) The burnishing method of claim 13, said burnishing  
2 method further comprising the step of deriving a  
3 resistive reference signal during a non-contacting  
4 condition of the slider.

5

1 16) The burnishing method of claim 15, wherein  
2 said resistive reference signal is provided by  
3 a natural resistance of a read head of said  
4 slider.

5

1 17) The burnishing method of claim 15, wherein  
2 said non-contacting condition is provided by  
3 positioning said slider arm in an operational  
4 parking position.

5

1 18) The burnishing method of claim 15, wherein  
2 said checking of said burnishing result is a  
3 recognition process of a predetermined fly  
4 characteristic of said slider.

5

1 19) The burnishing method of claim 18,  
2 wherein said fly characteristic is  
3 determined by a resistive operational  
4 signal derived from said read head and  
5 compared to said resistive reference  
6 signal.

7

1 20) The burnishing method of claim 15, wherein  
2 said checking of said burnishing result is a

3 recognizing of a predetermined friction  
4 characteristic of a contacting interface  
5 between said slider and said hard disk  
6 surface.

7  
1 21) The burnishing method of claim 20,  
2 wherein said friction characteristic is  
3 determined by a resistive friction signal  
4 derived from said read head and compared  
5 to said calibration signal.

6  
1 22) The burnishing method of claim 13, said burnishing  
2 method further comprising the step of sweeping said  
3 hard disk surface.

4  
1 23) The burnishing method of claim 22, wherein  
2 said sweeping is performed as a final step of  
3 said burnishing method.

4  
1 24) The burnishing method of claim 22, wherein  
2 said sweeping is performed by said slider with  
3 a centrifugal movement alternating with a  
4 centripetal movement.

5  
1 25) The burnishing method of claim 24,  
2 wherein said slider is contacting said  
3 hard disk surface during said centrifugal  
4 movement and distancing from said hard  
5 disk surface during said centripetal  
6 movement.

7

1 26) The burnishing method of claim 25,  
2 wherein said contacting and said  
3 distancing are performed by changing  
4 an environment pressure.

1 27) The burnishing method of claim 25,  
2 wherein said contacting and said  
3 distancing are performed by changing  
4 the rotational speed of said hard  
5 disk.

1 28) The burnishing method of claim 13, wherein said  
2 preparing of said hard disk surface is provided by  
3 a stepped reduction of a disk surface burnishing  
4 speed.

1 29) The burnishing method of claim 13, wherein said  
2 preparing of said hard disk surface is provided by  
3 a stepped reduction of an environment pressure.

1 30) The burnishing method of claim 13, wherein said  
2 burnishing of said slider is provided by applying a  
3 contacting force together with a rotational hard  
4 disk speed that corresponds to an abrasion  
5 characteristic of said hard disk surface.

1 31) The burnishing method of claim 13, wherein said  
2 burnishing of said slider is provided by applying  
3 said contacting force together with said rotational  
4 hard disk speed that corresponds to a debris  
5 clogging characteristic of a contacting interface  
6 between said slider and said hard disk surface.

1 32) A hard disk drive having a slider being fixated on a  
2 slider arm of said hard disk drive, said slider having  
3 a burnished surface being burnished by an opposing  
4 hard disk surface in a substantially parallel  
5 orientation to said opposing hard disk surface.  
6

1 33) The hard disk of claim 32, wherein said burnished  
2 surface is placed on an air bearing surface  
3 adjacent to a contacting sensor.  
4

1 34) The hard disk drive of claim 33, wherein  
2 said contacting sensor is a magnetic read  
3 head.  
4

1 35) The hard disk drive of claim 32, wherein said  
2 burnished surface is placed on an air bearing  
3 surface overlapping with a contacting sensor.  
4

1 36) The hard disk drive of claim 35, wherein  
2 said contacting sensor is a magnetic read  
3 head.